Remarks/Arguments

This Amendment is in response to the Official Action mailed August 2, 2005.

In the August 2, Office Action, the Examiner objected to informalities in claims 2, 7, and 9 and requested that "IC" be spelled out as "internal combustion". This has been done in the amendments herewith. In addition the Examiner pointed out an inconsistency in a phrase in claim 8, to wit: "a the rate". This has also been corrected.

Drawing Figure 10 was objected to as including reference numerals not likewise referenced in the written text of the specification. This inconsistency has been corrected with the amendments to the paragraph on page 3. Specifically, P* has now been appropriately referenced in the specification text as the "power requirement". Additional informalities in that paragraph were also corrected.

Drawing Figure 10 was also objected to as including insufficiently explained and unlabelled boxes in the disclosed algorithm. This inconsistency between the drawing Figure 10 and written text has been corrected by adding reference numerals 2 and 4 to the respectively unlabelled boxes, and an additional paragraph has been added to the specification on page 8 to explain the proportional integral controller 2 and the limiter 4 shown in original Figure 10. A Replacement Drawing sheet, detailed in the Amendments to the Drawings, has been included herewith as an Appendix that now indicates reference numerals 2 and 4 appropriately.

In the August 2, 2005, Office Action, claims 1, 2, 6, and 7 were rejected under 35 USC 103 as being unpatentable over Heglund USP 5,936,386 in view of Kaplan, USPA

'347. Claims 8 and 9 were further rejected in view of Coles, USPA '436. In view of the amendments herewith, these rejections are respectfully traversed.

Heglund is directed to solving the problems in the prior art that occur owing to the physical differences existing between allegedly identical switched reluctance generators. Specifically, a principal performance affecting aspect of a switched reluctance generator is the air gap existing between the stator and the rotor. A difference in this air gap existing between otherwise comparable switched reluctance generators will make the performance characteristics quite different notwithstanding identical control parameters. (See col. 2, lines 34-42, of Heglund.) As a result, Heglund seeks to linearize the respective performance of specified switched reluctance generators so that, in fact, they perform in the same predictable way in an electrical system. The Heglund system excites the switched reluctance generator at an unspecified turn-on angle (not accurately calculated) and, thereafter, free wheels once a measured phase current exceeds a predetermined level. (See Heglund, col. 2, lines 56-64.) As such, it does not matter what the performance parameters of that particular switched reluctance generator are. Instead, the performance is controlled, i.e., made to fit whatever the demand for power is in the electrical system.

The Heglund system is exactly the opposite of the presently claimed method. In the present method, an optimum turn-off angle is chosen first, based on an analytical function taking into account the electrical system power requirement and switched reluctance generator input speed and the performance parameters of the specified switched reluctance machine, and, thereafter a turn-on angle is selected to match the power requirement. The present method seeks to optimally control a specified machine,

and adjusts control parameters in accord with optimal operation. Heglund does not do this or suggest it.

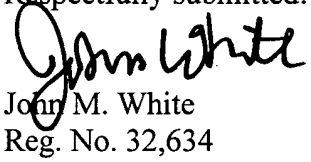
The secondary reference to Kaplan does not supply the deficiencies of Heglund. Kaplan is directed to a method that relies on mapping performance parameters of a specified switched reluctance generator and selecting turn-on and turn-off angles that result in the smallest effective phase currents being supplied and maximum efficiencies being achieved between input power to the generator and output power to the electrical system. (See Kaplan, page 3, para. 0029 and 0030.) Kaplan does not disclose or suggest that a method of controlling a switched reluctance generator should begin by taking into account the power requirement and input speed and, in view of that input, calculating an optimal efficiency turn-off angle and, thereafter, selecting an optimal turn-on angle.

The combination of the teachings of Heglund and Kaplan do not result in the presently claimed methods of controlling a switched reluctance generator.

The final reference to Coles does not, as the Examiner suggests, speak to the "rate of change" of a set point of the switched reluctance generator control method. Coles is, instead, directed to limiting the overall volt-amp rating of the generator, not the "rate of change" of a set point, as presently claimed, that adjusts as a part of controlling the operation of the generator so as to prevent overwhelming of the input power to the generator.

Applicant respectfully seeks reconsideration and allowance of the referenced application in light of the foregoing amendments and argument. In the event a telephone interview would prove useful to resolve any outstanding issues, the examiner is encouraged to contact the undersigned at the number indicated.

Respectfully submitted:



John M. White
Reg. No. 32,634
Berenato White & Stavish
PO Box 315
Waterford, Va. 20197
Ph 540 882 3569
Virginia Office

Amendments to the Drawings:

The attached replacement sheet includes reference numerals 2 and 4 to aid in discussing originally disclosed subject matter in Drawing Figure 10.

Attachment: Replacement Sheet.